

Swimming as a potentially important emergency capability of White-throated Swifts (*Aeronautes saxatalis*) engaged in aerial mating

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Abstract

It seems reasonable that birds that court or mate in the air over lakes or rivers should be capable of taking off from water or be able to swim, as they might find themselves in the water as a result of this activity. Nonetheless, interaction with water has rarely been documented in the wild and has not been reported for any species of swift in Canada. I report an incident of such activity, however, from Oliver, British Columbia. In this case, I observed a White-throated Swift (*Aeronautes saxatalis*) swimming vigorously for over 10 minutes before reaching dry land approximately 85 m away. The bird likely fell into the water as a result of flight miscalculations during aerial courtship or mating. I speculate that its swimming capability was aided by the long, narrow, flipper-like wings of the species. I did not observe the bird take flight from the water surface. From these observations, it is evident that White-throated Swifts are relatively strong, capable swimmers, at least for short periods.

Key words: White-throated Swift; *Aeronautes saxatalis*; swimming; aerial mating; British Columbia

McGuire and Brigham (2017) reported seeing Common Nighthawks (*Chordeiles minor*) taking wing immediately after rare incidents of the birds hitting the surface of a water body. The recovery flight was immediate in one case and somewhat delayed in the other, occurring after several seconds of the bird drifting (not swimming) on the surface. Jackson (1970) reports almost identical behaviour of a Barn Swallow (*Hirundo rustica*) immediately following its release from banding. McGuire and Brigham (2017) logically imply that a capacity for swimming is important for species that are active over water, especially those twisting and turning rapidly in their aerial pursuit of insect prey. In the case of Common Nighthawk, such activity would also be undertaken in poor light conditions. Individuals unable to respond successfully to occasional “ditchings” likely have a higher probability of mortality.

McGuire and Brigham (2017) document a number of other passerine bird species capable of taking off from water and/or swimming for short distances. They further note that, although several swallow species have been observed swimming, observations are lacking for other aerial insectivores, such as swifts. Indeed, they cite Lowther and Collins (2002) as stating that Black Swifts (*Cypseloides niger*) do not swim, although no particular evidence or qualifications of that statement are offered. McGuire and Brigham (2017: 126) go on to conclude: “there are no reports [of swimming] for other swifts found in Canada”. The following provides documentation of such behaviour by a swift in Canada. This report is based on field notes made by the author at the time of the original observations.

White-throated Swift (*Aeronautes saxatalis*) is found in Canada only in southern British Columbia where it

nests in large colonies in crevices of high bedrock cliffs or on conglomerate bluffs (Godfrey 1986). Some of the colonies in the Okanagan Valley are situated over water. Aerial courtship and mating activity at and about the nesting colony require swifts to spend considerable time in extraordinarily complicated and seemingly perilous flight over water. This aerial mating behaviour was beautifully described at a breeding colony over Vaseux Lake in the Okanagan Valley in May 1922:

[T]hey copulate in the air. At least several times I saw two meet, apparently face to face high in the air, cling together as though embracing for a moment through which they drop down hundreds of feet, there to separate and catch themselves on their wings (Percy A. Taverner, as cited by Cannings *et al.* 1987).

On 10 June 1982, I and several others witnessed an apparent malfunction of this aerial mastery at a large White-throated Swift breeding colony 6 km north of Oliver, Okanagan Valley, British Columbia (49.2413°N, 119.5182°W). This is only a few kilometres south of Taverner’s observations of 60 years earlier. The 250-m tall, west-facing nesting cliff here towers over Gallagher Lake, a small (5.3 ha) pond situated in semi-arid Ponderosa Pine (*Pinus ponderosa* Douglas ex Lawson & C. Lawson) forest (Figure 1). Numerous individual swifts as well as pairs were observed performing spectacular aerial feats over a 2-h period before sunset. At least 50 instances of pairs involved in “courtship falls” (Ryan and Collins 2000) were noted during that time. Much as described by Taverner (above), these courtship falls involved pairs of birds tumbling through the air for 150–200 m and then veering off from seemingly cer-

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tain contact with the lake surface. It was not possible to measure how close to the water surface the birds came but it appeared to be less than a metre. Remarkably, no contact with the water was witnessed in any of these displays.

Near sunset at 2100, we observed a bird floating and flapping in the middle of the lake ~150 m away (Figure 1). None of us in a group of six observers (all birders) had noticed it hit the water. Observation through a 30–60× zoom spotting scope confirmed that it was an adult White-throated Swift (sex undetermined); no juveniles are present at this date, well before nestling hatching in the Okanagan Valley (Cannings *et al.* 1987). Observation conditions were excellent on this calm, warm, clear evening and our consensus was that a bird flapping on the still water could not have avoided detection for more than about five minutes.

Over the following 10 minutes we observed the swift through the spotting scope as it swam toward the shore of the lake ~85 m away. It did this by rapidly stroking both wings in unison, with a brief (~1 s) pause between strokes. After a series of 10–20 such quick strokes, it floated quietly for 5–10 s, then proceeded to swim further. The bird was quite buoyant and held its head distinctly above the water throughout, both during active swimming as well as during the brief pauses.

At one point, it attempted to climb onto a swim raft anchored near the lakeshore (Figure 1), but could not scale the ~40 cm vertical sides of the raft. The bird abandoned that effort after a minute or two of unsuccessful scrambling and resumed its open-water swimming. When the bird reached the lakeshore and crawled onto a stranded log, it was trembling strongly and appeared exhausted. It made no attempt to fly and offered no resistance when approached and picked up by one of our group of observers. It was clear-eyed, alert, and silent. After two minutes the trembling stopped but the bird remained placidly perched in hand, with its toes wrapped firmly around the finger of the observer. Although its body feathers were wet (soaked virtually to the skin), its head was completely dry.

The bird remained quiet and completely inactive over the next 45 minutes as it began to dry off. It did not attempt to preen or aid in drying its feathers. As it was now almost completely dark, we placed the bird on dry towels in a cardboard box covered lightly by a cloth and left it in a quiet corner of a residential room overnight. The box was taken outside the following morning about 0700 (10 h later) and uncovered. The bird made no attempt to fly from the box. It was picked up (again offering no resistance), held up toward the open sky and released from the hand. It flew directly

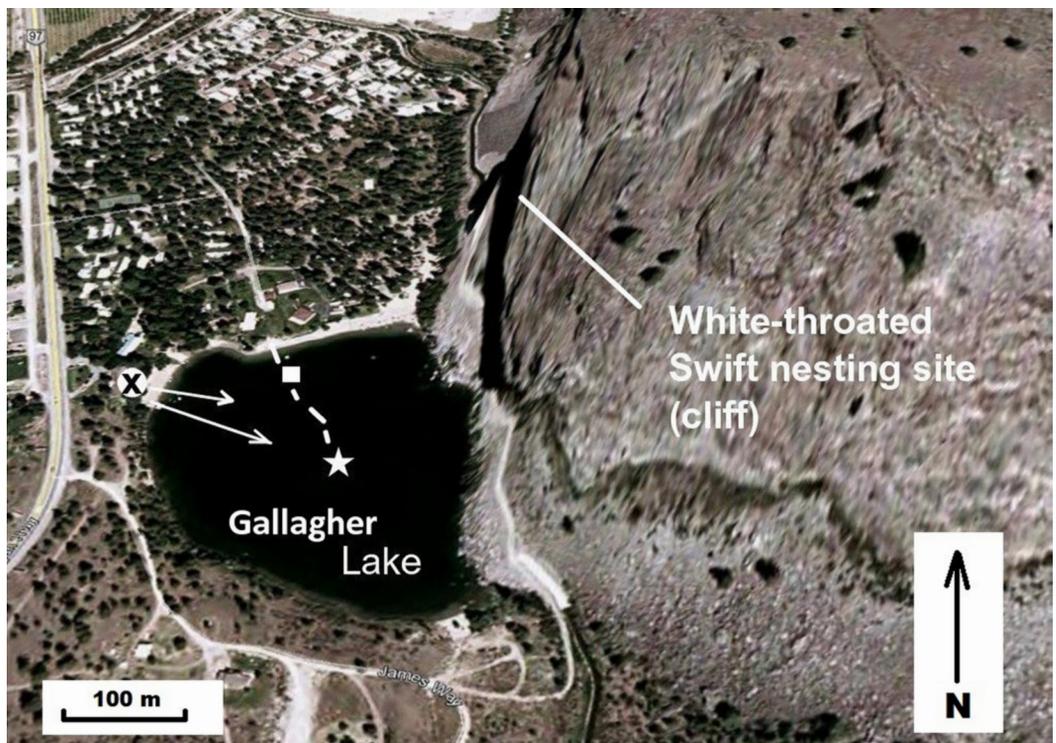


FIGURE 1. Location of observations of a swimming White-throated Swift (*Aeronautes saxaltis*), Gallagher Lake, British Columbia. X and arrows = observers' position and viewpoints; star = first noted location of swift on the water; dash line = approximate route of swim; square = approximate location of swim raft. Base image: GoogleEarth, 25 August 2016.

and strongly across the pond and back to the nesting cliff.

Given their propensity for high-speed acrobatic flying while over water bodies, it is not surprising that White-throated Swifts might, at least occasionally, hit the surface of the water. That such impacts occur, at least rarely, is also implied by historical references to White-throated Swifts striking the ground during courtship fall behaviour. Shufeldt (1887) describes two such entangled birds in New Mexico hitting the ground in a cloud of dust and, after several seconds, flying off separately. More dramatically, Van Tyne and Sutton (1937: 42) reported that White-throated Swifts at Emory Peak in western Texas “were often seen mating, and fierce aerial battles (between rival males?) sometimes persisted until the combatants struck the talus slope below and rolled down the steep declivity, still locked in bitter struggle”. They do not state whether the “combatants” were able to fly off after such groundings.

Less foreseeable than the occasional occurrence of water ditchings was the fact that the Gallagher Lake swift could swim so adeptly for about 85 m and stay afloat for a considerable time. It had no evident difficulty maintaining a head-high profile throughout its swim. McGuire and Brigham (2017) noted that the Common Nighthawks they observed to land accidentally on a water surface also appeared buoyant. That ability would presumably reduce energy requirements and improve the bird’s chances of a successful landfall (in the case of a swift) or flight from the surface (with the nighthawks). In comparison to the broader wings of most passerine species, the long, narrow, flipper-like wings of White-throated Swift also may assist in swimming efficiency and reduce the energy demands of that activity.

The Gallagher Lake bird showed no outward signs of injury from its ordeal and was seemingly able to recover its pre-ditching vigour within 10 h. It did not experience the feather loss from physical contact that McGuire and Brigham (2017) observed in Common Nighthawks with wet plumage. No loose feathers were noted in the box in which the swift was confined overnight.

Unlike Shufeldt’s (1887) report of White-throated Swifts being able to rise from the ground, I saw no evidence that the Gallagher Lake bird was capable of flying directly from the surface of the water. Its inability to surmount the short vertical wall of the swim platform

despite expending substantial effort in the attempt, suggests that its lift capacity had been reduced by the wetting of its plumage. These observations demonstrate, however, that, at least under emergency conditions, White-throated Swifts do have the advantageous ability to swim for a considerable distance.

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